

## COSTA RICAN CLIMATOLOGICAL DATA.

Communicated by Mr. H. PITIER, Director, Physico-Geographic Institute.

TABLE 1.—Hourly observations at the Observatory, San José de Costa Rica, during September, 1903.

Hours.	Pressure.		Temperature.		Relative humidity.		Rainfall.		Stations.
	Observed, 1899-1900.	Normal, 1899-1900.	Observed, 1899-1900.	Normal, 1899-1900.	Observed, 1899-1900.	Normal, 1899-1900.	Duration, 1899-1900.	Amount, 1899-1900.	
1 a. m.	Inches.	Inches.	° F.	° F.	%	%	Ins.	Ins.	Feet.
2 a. m.	26.17	26.13	62.4	63.4	93	94	0.01	0.02	60
3 a. m.	26.16	26.12	62.0	63.0	92	94	0.01	0.02	3
4 a. m.	26.14	26.10	61.9	62.6	91	94	0.01	0.02	1.34
5 a. m.	26.13	26.10	61.3	62.3	91	94	0.01	0.01	3
6 a. m.	26.14	26.10	60.8	62.2	91	94	0.01	0.01	1.02
7 a. m.	26.15	26.11	60.4	61.8	91	94	0.01	0.01	3.86
8 a. m.	26.16	26.14	65.4	66.7	80	85	0.00	0.00	20
9 a. m.	26.18	26.15	69.6	69.4	69	77	T.	T.	60
10 a. m.	26.18	26.15	73.6	73.8	65	71	0.00	0.00	60
11 a. m.	26.18	26.15	75.6	75.8	60	68	0.02	0.02	60
Noon	26.17	26.14	77.3	77.0	59	69	0.02	0.13	122
1 p. m.	26.15	26.11	77.2	76.9	64	69	0.07	0.64	300
2 p. m.	26.13	26.10	77.4	75.6	62	73	0.77	1.06	12.28
3 p. m.	26.11	26.08	74.8	73.6	69	78	0.35	1.14	161
4 p. m.	26.10	26.08	72.1	71.1	78	83	1.47	2.34	206
5 p. m.	26.11	26.08	69.6	68.9	82	86	1.84	2.13	332
6 p. m.	26.12	26.09	67.8	67.7	87	90	1.62	1.70	629
7 p. m.	26.14	26.11	66.6	66.4	87	92	1.07	1.39	1,040
8 p. m.	26.16	26.13	65.6	65.7	91	92	1.91	0.79	1,100
9 p. m.	26.17	26.14	65.0	65.0	91	93	0.35	0.50	1,336
10 p. m.	26.18	26.15	64.3	64.5	93	92	0.19	0.21	1,020
11 p. m.	26.19	26.15	63.9	64.1	91	92	0.12	0.11	1,297
Midnight	26.19	26.15	63.0	63.8	93	93	0.02	0.04	1,337
Mean	26.15	26.12	67.4	67.6	81	86	.....	.....	1,451
Minimum	26.07	25.97	55.0	55.9	33	.....	.....	.....	1,500
Maximum	26.22	26.23	84.7	86.0	100	.....	.....	.....	1,500
Total	.....	.....	.....	.....	9.83	12.29	65.51	.....	1,500

REMARKS.—At San José the barometer is 1169 meters above sea level. Readings are corrected for gravity, temperature, and instrumental error. The hourly readings for pressure, and wet and dry bulb thermometers, are obtained by means of Richard registering instruments, checked by direct observations every three hours from 7 a. m. to 10 p. m. The thermometers are 1.5 meters above ground and are corrected for instrumental errors. The total hourly rainfall is as given by Hottinger's self-register, checked once a day. Under maximum, the greatest hourly rainfall for the month is given. The standard rain gage is 1.5 meters above ground. Since January 1, 1902, observations at San José have been made on seventy-fifth meridian time, which is 0 hours, 36 minutes, 18.3 seconds *in advance* of San José local time. The normals for pressure, temperature, and relative humidity have been adjusted to this time; the normal for rainfall in Table 1 and the sunshine observations and normal in Table 2 refer to local time. At Port Limón the hours of direct observation are 8 a. m., 2 and 8 p. m., San José local time; the barometer is 3.4 meters above sea level. The means for temperature and relative humidity in Table 4 are obtained from two-hourly readings given by a Richard self-registering thermometer.

TABLE 2.—San José, September, 1903.

Time.	Sunshine.		Cloudiness.		Temperature of the soil at depth of—					Stations.
	Observed, 1899-1900.	Normal, 1899-1900.	Observed, 1899-1900.	Normal, 1899-1900.	6 inches.	12 inches.	24 inches.	48 inches.	120 inches.	
7 a. m.	Hours.	Hours.	%	%	° F.	° F.	° F.	° F.	° F.	
8 a. m.	12.08	9.36	52	54	69.7	70.3	71.2	70.7	70.5	
9 a. m.	23.85	20.35	.....	.....	.....	.....	.....	.....	.....	
10 a. m.	24.92	22.20	.....	.....	.....	.....	.....	.....	.....	
11 a. m.	25.38	22.07	68	61	69.8	70.1	71.2	70.9	70.5	
Noon	21.98	20.07	.....	.....	.....	.....	.....	.....	.....	
1 p. m.	16.24	12.48	82	83	70.7	70.5	71.2	70.9	70.5	
2 p. m.	15.22	11.75	.....	.....	.....	.....	.....	.....	.....	
3 p. m.	13.46	8.65	.....	.....	.....	.....	.....	.....	.....	
4 p. m.	8.74	4.50	92	94	71.2	70.8	71.2	70.8	70.5	
5 p. m.	5.44	2.08	.....	.....	.....	.....	.....	.....	.....	
6 p. m.	1.42	0.51	.....	.....	.....	.....	.....	.....	.....	
7 p. m.	87	92	71.2	70.9	71.3	70.7	70.7	70.7	70.5	
8 p. m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
9 p. m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
10 p. m.	66	77	71.5	70.9	71.3	70.7	70.7	70.7	70.5	
11 p. m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Midnight	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Mean	18.82	16.40	74	77	70.6	70.6	71.3	70.6	70.5	
Total	187.55	150.42	.....	.....	.....	.....	.....	.....	.....	

TABLE 3.—Rainfall at stations in Costa Rica, September, 1903.

Stations.	Height above sea level.	Amount.	Number of days.	Observed, 1903.	Averages.			
				Feet.	Inches.	Number of years.	Amount.	Number of days.
Sipirio (Talamanca)	60	11.69	3	13	3	16.34	11.69	18
Boca Banano	3	5.00	7	5	5.00	15	5.00	25
Port Limon	3	5.28	9	19	5.28	10	5.28	22
Swamp Mouth	3	5.67	5	14	5.67	10	5.67	10
Zent	20	5.00	2	10	5.00	13	5.00	13
Siquirres	60	5.39	5	9	5.39	12	5.39	12
Dos Novillos	122	.....	.....	.....	.....	.....	.....	.....
Guapiles	300	13.27	15	15	13.27	14	13.27	14
Cariblanco (Sarapiquí)	835	5.79	25	5	5.79	25	5.79	25
San Carlos	161	12.28	19	5	12.28	22	12.28	22
Las Lomas	266	0.87	4 <sup>2</sup>	3	0.87	11	0.87	11
Peralta	332	10.67	17	5	10.67	18	10.67	18
Turrialba	629	1.46	7	8	1.46	17	1.46	17
Juan Viñas	1,040	2.91	16	7	2.91	12	2.91	12
Santiago	1,100	6.57	18	2	6.57	21	6.57	21
Paraiso	1,336	3.98	7	2	3.98	18	3.98	18
Cachi	1,020	4.17	7	2	4.17	28	4.17	28
Las Conecavas	1,337	6.69	23	2	6.69	20	6.69	20
Cartago	1,451	6.89	17	3	6.89	18	6.89	18
Tres Ríos	1,300	10.43	17	13	10.43	20	10.43	20
San Francisco Guadalupe	1,187	3.90	12	7	3.90	22	3.90	22
San José	1,160	9.83	19	14	9.83	24	9.83	24
La Verbena	1,140	12.60	23	7	12.60	21	12.60	21
Nuestro Año	791	9.06	14	7	9.06	20	9.06	20
Alajuela	950	15.51	22	3	15.51	21	15.51	21
San Isidro Alajuela	1,346	18.39	24	2	18.39	22	18.39	22
Las Cañas	780	13.23	16	.....	13.23	.....	13.23	.....

TABLE 4.—Observations taken at Port Limón and Zent, September, 1903.

Stations.	Pressure.			Temperature.			Relative humidity.
	Minim.	Max.	Mean.	Minim.	Max.	Mean.	
Port Limón	Inches.	Inches.	Inches.	° F.	° F.	° F.	
Zent	65.5	90.1	82.2	83	81.3	81.1	83
Stations.	Cloudiness.	Hours.	Rainfall.	Temperature of soil at depth of—			
Port Limón	%	Hours.	Inches.	1.02	2.64	10	° F.
Zent	72	165.43	.....	82.4	81.3	81.1	° F.

## MEXICAN CLIMATOLOGICAL DATA.

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September, 1903.

Stations.	Altitude.	Mean barometer.*	Temperature.			Relative humidity.	Precipitation.	Prevailing direction.	Wind.	Cloud.
			Max.	Min.	Mean.					
Chihuahua	4,684	25.24	86.7	50.4	73.6	47	3.71	ne.	.....	.....
Guadalajara (Obs. del Est.)	5,186	24.92	80.6	59.0	68.4	77	5.47	eue.	.....	.....
Guanajuato	6,640	24.27	81.3	52.9	67.1	70	3.38	wsw.	.....	.....
Mazatlan	25	29.84	91.9	69.8	82.8	77	8.40	nw.	.....	.....
Merida	50	29.90	96.8	62.1	81.7	74	1.29	ne.	.....	.....
Mexico (Obs. Cent.)	7,472	23.06	75.7	51.1	61.5	71	2.00	nw.	e.	.....
Mexico (E. N. Agric.)	7,442	23.06	74.3	51.8	61.5	79	3.27	s.	.....	.....
Monterey (Seminario)	1,626	23.92	74.3	51.8	61.5	79	3.27	s.	.....	.....
Morelia (Seminario)	6,401	23.92	74.3	51.8	61.5	79	3.27	s.	.....	.....
Pachuca	7,959	23.38	75.7	45.1</						